

## CLAIMS

1. A method for measuring the growth potential of a soil microorganism in a soil, comprising the steps of:

(a) contacting a soil suspension of a soil to be measured with multiple sensors, each of which comprise a unit comprising an oxygen electrode, a housing section that stores a soil microorganism, and an immobilizing member, wherein the housing section of each sensor stores a different soil microorganism; and

(b) measuring the differences in a decrease or rate of decrease of output electric current for each of the sensors.

2. A method for evaluating the risk of the occurrence or spread of a soil disease caused by a soil-borne phytopathogenic microorganism, comprising the steps of:

(a) contacting a soil suspension of a soil to be measured with a sensor which comprises a unit comprising an oxygen electrode, a housing section that stores a general soil microorganism, and an immobilizing member, and with a sensor which comprises a unit comprising an oxygen electrode, a housing section that stores a soil-borne phytopathogenic microorganism, and an immobilizing member; and

(b) measuring a decrease or rate of decrease in output electric current for each of the sensors,

wherein the risk of occurrence or spread of the soil disease caused by the soil-borne phytopathogenic microorganism in the soil is determined to be low when the decrease or rate of decrease of output current in the case of the general soil microorganism is significantly higher than that in the case of the soil-borne phytopathogenic microorganism.

3. A method for evaluating an effect of a general soil microorganism in controlling a soil disease caused by a soil-borne phytopathogenic microorganism, comprising the steps of:

(a) contacting a soil suspension of a soil to be measured with a sensor which comprises a unit comprising an oxygen electrode, a housing section that stores a general soil microorganism, and an immobilizing member, and also contacting the soil suspension of the soil to be measured with a sensor which comprises a unit comprising an oxygen electrode, a housing section that stores a soil-borne phytopathogenic microorganism, and an immobilizing member; and

(b) measuring a decrease or rate of decrease in output electric current for each of the sensors,

wherein the general soil microorganism is determined to have an effect in controlling the soil disease caused by the soil-borne phytopathogenic microorganism in the soil when the

decrease or rate of decrease of output current in the case of the general soil microorganism is significantly higher than that in the case of the soil-borne phytopathogenic microorganism.

4. A kit used for the method of claim 1, comprising multiple sensors each of which  
5 comprise a unit comprising an oxygen electrode, a housing section that stores a soil  
microorganism, and an immobilizing member, wherein the housing section of each sensor stores  
a different soil microorganism.

5. A kit used for the method of claim 2 or 3, comprising a sensor that comprises a unit  
10 comprising an oxygen electrode, a housing section that stores a general soil microorganism, and  
an immobilizing member; and comprising a sensor which comprises a unit comprising an oxygen  
electrode, a housing section that stores a soil-borne phytopathogenic microorganism, and an  
immobilizing member.